

Remarks

Applicants respectfully request reconsideration of the present application in view of the foregoing amendments and the following remarks. Claims 1-10, 12-18, and 20-23 are pending in the application. Claims 1-10, 12-18, and 20-23 are rejected. No claims have been allowed. Claims 1, 8, 16, and 23 are independent. Claims 1, 6, 7, 16, and 23 have been amended.

Cited Art

The Action cites Altieri (6,104,751) ("Altieri") and Jacquin (5,764,803) ("Jacquin").

Statutory Subject Matter

Claims 16-22 were rejected under § 101 as allegedly directed to non-statutory subject matter. Applicants have amended claim 16 as per the Examiner's suggestion. The rejection therefore should be withdrawn.

Patentability of Claims 1-10, 12-18, and 20-23 Under 35 USC § 103(a)

The Action rejects claims 1-10, 12-18, and 20-23 under 35 U.S.C § 103(a) as unpatentable over Altieri in view of Jacquin. Applicants respectfully traverse the rejection.

The claims generally address an intelligent differential quantization technique that provides coding efficiency by signaling a choice of boundary edges of a frame that are to be decoded with a different quantization than that applied generally to the image. More particularly, independent claim 1 recites, "wherein the signaling uses a syntax that includes coding a choice of the region from among the boundary edges of the frame." Independent claim 8 recites, "wherein the syntax scheme identifies a differently quantized region to be from among a list of coding possibilities that comprises a single boundary edge and a pair of adjacent boundary edges of the frame." Independent claim 16 recites, "wherein the syntax scheme codes the region from a choice of a single boundary edge and a pair of adjacent boundary edges of the frame." Independent claim 23 recites, "the syntax further signaling the regions for differential quantization to be a coding choice out of any of a single boundary edge, a pair of adjacent boundary edges, all four boundary edges, and all macroblocks individually." These claim limitations are not taught or suggested by the cited art.

The cited art lacks any suggestion to use a syntax that codes a choice of a boundary edge to which a different quantizer is applied. Artieri describes a decoding mechanism for decompressing high definition pictures. *See*, Artieri at Abstract and Title. The coding syntax used by Artieri's decoding system includes a picture sequence header with two quantizer tables, and macro-block header that includes a quantizer scale. *See*, Artieri at column 2, lines 34-38 and 46-51. Artieri describes that the quantizer scale is provided to the inverse quantizer. *See*, Artieri at column 2, lines 46-48. Artieri therefore appears to describe separately coding a separate quantizer scale per each macroblock of the picture.

Jacquin does not teach or suggest or motivate making any modification of Artieri. Jacquin describes using global motion estimation to distinguish foreground and background portions of an image. *See*, Jacquin at Abstract, and column 2, lines 31-41. Jacquin then describes coding the foreground and background regions with different quantization. *See*, Jacquin at column 2, lines 42-56. In more detail, Jacquin indicates that a relatively fine quantization coder is applied to transform blocks within an elliptical region (e.g., corresponding to a human head or body) identified as foreground, while a coarser quantization coder is applied to background blocks. However, Jacquin is concerned only with a video encoder, and does not mention decoding of the video stream. As such, Jacquin does not mention that the different quantization, and foreground/background regions are even signaled to the video decoder in any way.

Because Jacquin describes using a separate finer quantizer coder on transform blocks within foreground ellipses regions than the coarser quantizer coder used on background region blocks, Jacquin would not suggest or motivate one of ordinary skill in the art to make any modification to Artieri. As discussed above, Artieri already separately signals a quantizer scale in each macroblock header. Jacquin would provide no reason or motivation to modify the per macroblock header signaling of different quantizer scales.

Accordingly, at most, one of ordinary skill who followed the teachings in these cited references would simply use coding of quantizer scale in the macroblock header as per Artieri to signal the different quantization applied to blocks in foreground ellipses regions and background region blocks that is described in Jacquin.

Further, Jacquin does not describe or suggest to use global motion estimation to identify particular boundary edges of an image for different quantization. Jacquin describes identifying ellipses

regions in the image whose motion differs from the image global motion to be foreground. Jacquín describes the background blocks as all blocks other than such ellipses regions.

Accordingly, the cited art lacks any teaching or suggestion or motivation that would lead toward the recited signaling of a coding choice of the region from among the boundary edges of the frame.

For at least these reasons, the independent claims 1, 8, 16 and 23 (as well as their dependent claims 2-7, 9-10, 12-15, 17-18 and 19-22) should be patentable over this art.

Interview Request

If the claims are not found by the Examiner to be allowable, the Examiner is requested to call the undersigned attorney to set up an interview to discuss this application.

Conclusion

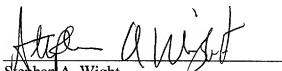
The claims in their present form should be allowable. Such action is respectfully requested.

Respectfully submitted,

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